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## Brakes

### Secs. 14-80-1—14-80-4.

Repealed, July 1, 1977.

### Sec. 14-80-1a. Stopping distance

“Stopping distance” as used in section 14-80-2a means the distance traveled by a vehicle or combination of vehicles from the point of application of force to the brake control to the point at which the vehicle reaches a full stop.

(Effective July 1, 1977)

### Sec. 14-80-2a. Service brakes

(a) Each motor vehicle or combination of motor vehicles shall be equipped with service brakes maintained in good and proper operating condition adequate to stop such vehicle or vehicles within the following specified stopping distances at the speeds indicated from the point where such brakes are first applied when such vehicle or vehicles are operated on a dry asphalt or concrete pavement surface free from loose material where the surface grade does not exceed one (1) percent.

#### 1. Passenger motor vehicles.

<i>Speed</i> <i>Miles per Hour</i>	<i>Required Stopping Distance</i> <i>(Ft.)</i>
20	24
30	54
40	91
55	172

2. Each motor vehicle equipped with a hydraulic service brake system having a G.V.W.R. of 10,000 lbs. or less including school buses but not including passenger motor vehicles.

<i>Speed</i> <i>Miles per Hour</i>	<i>Required Stopping Distance</i> <i>(Ft.)</i>
20	29
30	65
40	144
55	272

3. Each motor vehicle equipped with a hydraulic service brake system having a G.V.W.R. greater than 10,000 lbs. including school buses but not including passenger motor vehicles.

<i>Speed</i> <i>Miles per Hour</i>	<i>Required Stopping Distance</i> <i>(Ft.)</i>
20	36
30	81
40	173
55	326

4. Trucks, buses and trailers equipped with air brake systems.

<i>Speed</i> <i>Miles per Hour</i>	<i>Required Stopping Distance</i> <i>(Ft.)</i>
20	35
30	75
40	131
55	246

5. Motorcycles.

<i>Speed</i> <i>Miles per Hour</i>	<i>Required Stopping Distance</i> <i>(Ft.)</i>
15	11
20	19
30	43
40	75
55	155

(b) The service brake on trucks and buses, including public service motor vehicles and service buses manufactured after June 1, 1976 equipped with air brake systems shall have:

1. An air compressor of sufficient capacity to increase pressure in the supply and service reservoirs from 85 P.S.I. to 100 P.S.I. when the engine is operating at the vehicle manufacturer's mum recommended R.P.M. within a time, in seconds, determined by the quotient

$$\frac{\text{Actual reservoir capacity} \times 25}{\text{Required reservoir capacity}}$$

2. One or more service reservoir systems, from which air is delivered to the brake chambers, and either an automatic condensate drain valve for each service reservoir or a supply reservoir between the service reservoir system and the source of air pressure.

3. The combined volume of all service reservoirs and supply reservoirs shall be at least 12 times the combined volume of all service brake chambers at maximum travel of the pistons or diaphragms.

4. Each reservoir shall be capable of withstanding an internal hydrostatic pressure of 5 times the compressor cutout pressure or 500 P.S.I., whichever is greater, for 10 minutes.

5. Each service reservoir system shall be protected against loss of air pressure due to failure or leakage in the system between the service reservoir and the source of air pressure, by check valves or equivalent devices whose proper functioning can be checked without disconnecting any air line or fitting.

6. Each reservoir shall have a condensate drain valve that can be manually operated.

7. If the vehicle is intended to tow another vehicle equipped with air brakes, a system to protect the pressure in the towing vehicle from the effects of a loss of air pressure in the towed vehicle.

8. A pressure gauge in each service brake system, readily visible to a person seated in the normal driving position, that indicates the service reservoir system air pressure. The accuracy of the gauge shall be within plus or minus 7 percent of the compressor cutout pressure.

9. A signal, other than a pressure gauge, that gives a continuous warning to a person in the normal driving position when the ignition is in the "on" or "run" position and the air pressure in the service reservoir system is below 60 P.S.I. The signal shall be either visible within the driver's forward field of view, or both audible and visible.

10. Each vehicle equipped with an antilock system shall have a signal that gives a continuous warning to a person in the normal driving position when the ignition is in the on or run position in the event of a total electrical failure of the antilock system. The signal shall be either visible within the driver's forward field of view or both audible, for a duration of at least 10 seconds, and continuously visible. The signal shall operate in the specified manner each time the ignition is returned to the "on" or "run" position.

(Effective July 1, 1977)

### **Sec. 14-80-3a. Parking brake**

(a) Each passenger motor vehicle or motor vehicle with a G.V.W.R. of 10,000 lbs. or less having a hydraulic or any other type service brake system shall be equipped with a parking brake system which upon actuation by the operator shall be effective in applying braking action either directly or indirectly on at least two wheels. If the service brake system and the parking brake system are functionally connected in any way, they shall be so constructed that failure of any one part of the operating mechanism shall not leave the motor vehicle without parking ability on at least two wheels. The parking brake system shall be of the friction type with a solely mechanical means to retain engagement and shall be capable of holding the vehicle, when loaded to its G.V.W.R., to the limit of traction of the braked wheels in both forward and reverse directions on clean, dry, smooth Portland Cement Concrete pavement (or other surface with equivalent coefficient of surface friction) on grades and under conditions specified as follows:

1. 20% (11.3°) grade for any motor vehicle manufactured prior to January 1, 1976.

2. Any motor vehicle manufactured on or after January 1, 1976 shall meet the requirements of either part "a" or parts "b" and "c" below as applicable:

a. 30% (16.7°) grade for any motor vehicle not equipped with a transmission control parking mechanism feature and any motor vehicle so equipped having the transmission parking mechanism disengaged.

b. 30% (16.7°) grade for any motor vehicle equipped with a transmission control parking mechanism which is engaged simultaneously with the vehicle's parking brake.

c. 20% (11.3°) grade for any motor vehicle equipped with a transmission control parking mechanism which is not engaged and the vehicle's parking brake is applied.

(b) Each truck or bus having a hydraulic or any other type service brake system with a G.V.W.R. greater than 10,000 pounds shall have a parking brake system of a friction type with a solely mechanical means to retain engagement and shall be capable of holding the vehicle stationary, when loaded to its gross vehicle weight rating established by the manufacturer, in both forward and reverse directions on a 20% (11.3°) grade.

(c) Each truck, bus or trailer equipped with an air brake system shall have a parking brake system capable of holding the vehicle or vehicle combination stationary when facing uphill and facing downhill on a smooth, dry Portland Cement Concrete roadway with a 20% (11.3°) grade, both (1) when loaded to its gross vehicle weight rating, and (2) at its unloaded vehicle weight plus 500 pounds

(including driver and instrumentation). The parking brakes shall be applied by an energy source that is not affected by loss of air pressure or brake fluid pressure in the service brake system. Once applied, the parking brakes shall be held in the applied position solely by mechanical means.

(Effective July 1, 1977)

### **Seals and Stickers**

#### **Sec. 14-80-5.**

Repealed, February 22, 1985.

### **Siren Permits**

#### **Sec. 14-80-6. Siren permits**

Permits for the use of sirens on motor vehicles belonging to members of volunteer fire companies or associations shall be limited the volunteer fire chiefs and their first and second deputies or their first and second assistants should there be no deputies. Before any permit is issued to a deputy or assistant, as the case may be, the chief shall provide certification as to the status of the applicant.

(Effective October 26, 1988)